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ABSTRACT

This manual, written in workbook form, presents a self-management program for individuals with severe disabilities. The program is designed to facilitate treatment gains in multiple settings and in the absence of a treatment provider. The steps in the program include: (1) getting ready (define behaviors, measure behaviors, choose a reward, and select an initial goal); (2) teaching self-management (gather materials, identify the behavior, record the behavior, and reward self-management); (3) creating independence (increase the amount of time the student self-manages behavior, fade the student's reliance on prompts, increase the number of responses necessary for a reward, and fade the presence of the treatment provider); (4) teaching self-management in additional settings; and (5) troubleshooting. Three case histories illustrate implementation of the self-management program. (25 references) (JDD)

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HOW TO TEACH SELF-MANAGEMENT TO PEOPLE WITH SEVERE DISABILITIES:

A TRAINING MANUAL

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HOW TO TEACH SELF-MANAGEMENT TO PEOPLE WITH SEVERE DISABILITIES:

A TRAINING MANUAL

This manual represents one type of self-management program that has been proven to be effective for individuals with severe disabilities. It is designed to be used in community settings where one on one clinical contact is often difficult or impossible. This program should not be viewed as a substitute for quality teaching techniques, but rather as a way of facilitating treatment gains in multiple settings and in the absence of a treatment provider.

The manual is written in workbook form to help you organize a treatment program that is individualized for your student. It is important to first quickly read the entire manual to obtain a general overview of what is involved. Failing to overview the entire manual (including the trouble-shooting section) before beginning this project may result in less successful and more time-consuming teaching. After reading the entire manual for an overview, read the manual carefully and in detail, taking time to complete the exercises included throughout. These exercises form the basis of your "treatment "plan".

FIELD-TESTING

The procedures described in this manual are based on published empirical investigations (see reference section). In addition, this manual has been reviewed and then revised accordingly in order to help assure that the procedures are readily useable with a variety of different students and behaviors. First, the manual was reviewed by professors and graduate students at six different universities who did not participate in the writing. Feedback on the written material and its useability with students was provided to us and revisions were made. During the second phase of field-testing, the manual was provided to community members with varying levels of expertise and experience, who felt they could use the manual with students. Following their implementation of the program they were contacted either by phone, or were observed directly. All feedback from the community members were incorporated into further revisions.

As a result, we feel that this manual is relatively easy to implement and is applicable to a large number of students and behaviors in a wide range of community settings. However, should readers develop further questions (or have positive comments) while utilizing this manual, we would appreciate written comments addressed to Dr. Robert Koegel, Community Organization Research Institute, University of California, Santa Barbara, 93106.

INTRODUCTION

The ultimate goal of most teachers and parents of people with severe disabilities is to optimize conditions for integration into the community. In order for this to occur, behaviors within the community's "normal" range must be exhibited for extended periods of time with minimal feedback. Community integration has frequently met only with minimal success for severely disabled individuals who frequently exhibit disruptive behaviors (c.f., Eyman, Borthwick, & Miller, 1981; Heal, Sigelman, & Switsky, 1978; Mayeda & Sutter, 1981; Schalock & Harpert, 1978). Self-management procedures offer a community-referenced, non-aversive treatment technique for modifying a wide variety of behaviors (See Appendix A). Because the procedures transfer control of the behavior from the treatment provider to the student, they are ideally suited to natural settings such as school programs and other community environments where constant supervision in not possible.

This manual has been written specifically for parents and treatment providers who interact with individuals with disabilities on a daily basis and therefore have the greatest need, and potential, to facilitate community integration. It is advisable that people using this manual are familiar with basic behavior modification procedures such as those discussed in Behavior Problems (Baker, Brightman, Heifetz, & Murphy, 1976). Self-management procedures are quite easy to use because they don't require modifications in teaching methods and styles already in use. This book details, step by step, how to implement a self-management program.

Definition of Self-Management

Self-management procedures consist of a series of steps where a person first determines whether a specific behavior has occurred, next records the occurrence of this behavior, and then obtains a reward. In order to maximize motivation, it is important that the person also share control in the choice of teaching contexts, stimuli, and reinforcers (cf. Koegel, O'Dell, & Koegel, 1987; Koegel, Schreibman, Good, Cerniglia, Murphy, & Koegel, 1989). One of the strengths of self-management is that it is a flexible procedure that is easily adapted to individual students, behaviors, and settings. It also facilitates the transfer of behavior control from the treatment provider to the student. It is hypothesized that self-management procedures initiate behavior changes that are ultimately reinforced by contingencies which naturally occur in the environment. For example, the individual that learns not to engage in disruptive behavior in order to obtain a sticker, might receive a great deal of positive social attention when disruptive behavior does not occur. For this reason, students can be gradually "weaned" from rewards administered by the treatment provider, until the target behavior is maintained by the "natural" reinforcers common in the environment. Most of our most recent work has focused on decreasing severely disruptive behaviors such as self-injurious behaviors and self-stimulatory behaviors that are likely to cause immediate physical harm to the student or may put them at risk for more restrictive environments. In such cases, self-management programs result in rapid and dramatic behavior changes and are relatively easy to implement, however, as noted above,

the procedures described below should not be viewed as a substitute for good teaching or other changes in setting events or stimuli which may cause an increase in the likelihood of disruptive behaviors.

Who Can Learn Self-Management Skills

Self-management has traditionally been considered a cognitive task. Thus, research and treatment programs have focused primarily on individuals with average or above average IQ scores. Recent research, however, suggests that individuals with mild, moderate, and even severe levels of cognitive impairment can be taught to successfully self-manage their behavior (Gardner, Cole, Berry, & Nowinski, 1983; Knapczyk & Livingston, 1973; Litrownik & Freitas, 1980; Litrownik, Freitas, & Franzini, 1978; Mahoney & Mahoney, 1976; Nelson, Lipinski, & Black, 1976; Roney, Hallahan, & Lloyd, 1984; Shapiro & Klein, 1980; Shapiro, McGonigle, & Ollendick, 1980; Sugai & Rowe, 1984; Uhlman & Shook, 1976). The earliest research conducted in our laboratories focused on speech-impaired students with normal intelligence (Koegel, Koegel, & Ingham, 1986; Koegel, Koegel, Van Voy, & Ingham, 1988). Our more recent research with students with severe disabilities (i.e., having nonverbal mental ages half of their chronological ages) demonstrates that self-management can be used to decrease a variety of stereotypic behaviors, in addition to other disruptive behaviors such as self-injury, aggression, and property damage (Koegel & Koegel, 1988; Koegel & Koegel, 1989; Koegel, & Koegel, 1990). Thus, this manual has been written to help a diverse group of people to learn to modify their own behavior. At this point, self-management procedures have not been used with non-verbal students, although they have been successful with students with very limited language skills (e.g., one 13 year old student had an age equivalent score of 3-8 as measured by Standardized Tests. While language skills may not be a prerequisite to successful self-management, they may facilitate the training.

General Self-Management Steps

The following steps are a brief outline of the general steps used in a self-management program. Each step will be described in detail below. Once you have read the detailed description of each step, this outline can be quickly referred to as a reminder, or checklist, of the steps.

1. Getting Ready
( ) a. Define behaviors
( ) b. Measure behaviors
( ) c. Choose a reward
( ) d. Select an initial goal

2. Teaching Self-Management
( ) a. Gather materials
( ) b. Identify the behavior
( ) c. Record the behavior
( ) d. Reward self-management

3. Creating Independence
( ) a. Increase the amount of time your student self-manages behavior
( ) b. Fade your student's reliance on prompts
( ) c. Increase the number of responses necessary for a reward
( ) d. Fade the presence of the treatment provider

4. Teaching Self-Management in Additional Settings

STEP 1: GETTING READY

Define Behaviors

Now that you've decided to develop a self-management program for your student, you need to do a few things before the actual teaching begins. First, you need to make a list of specifically defined behaviors you (and your client) would like to decrease or increase. This can be done through the use of functional analysis procedures (O'Neill & Horner, Albin, Storey, & Sprague, 1989; Carr & Durand, 1985), thus helping to ensure that the target behaviors are functional and of direct value for the client. A few reasons the behaviors need to be specifically defined are: (1) so that they can be measured easily, (2) so that you can be sure that your student has a clear understanding of the behavior, and (3) to facilitate communication among others. While this may be easy to do for some behaviors, such as hitting others, or answering questions, it may be more difficult to do when numerous behaviors are involved. For example, the definition "not getting along

with brother" is too vague. A better definition of this problem would include the specific individual behaviors that "not getting along with brother" is composed of, such as "hitting brother; taking away brother's toys; entering brother's room; and pinching brother". Similarly, "not following directions at school" isn't useful information. However, "getting out of seat; singing and talking aloud; and not engaging in assignments upon request" gives a much better idea of the problem behaviors. Lists of inappropriate behaviors can get very lengthy for some individuals, but don't worry. We've implemented many successful self-management programs that include well over a dozen disruptive behaviors.

Define your student's inappropriate behavior(s) here:

1/1._____

_____

_____

_____

_____

Next comes the fun part. Just sit back, relax, and envision what your student would be doing in place of the inappropriate behaviors you've just defined. It is important to select behaviors on an individual client basis. Try to select behaviors that are likely to be naturally reinforcing or of direct function value for your specific client. Utilize as much client input (verbal and/or nonverbal) as you can to determine client specific behaviors. For example, you may picture your student playing appropriately with his own toys near his brother. Or, you may imagine your student sitting quietly in her chair at school working on her assignments. It is important to define appropriate behaviors just as carefully as you defined inappropriate behaviors, because it is these appropriate behaviors that you will be prompting your student to engage in, and it is these behaviors that you wish to be naturally reinforcing and of direct value to your client.

Define your student's appropriate behaviors here:

1/2._____

_____

_____

_____

_____

From the appropriate behaviors you've defined above you'll need to choose a "target behavior" to work on. Ideally, having your student choose his or her own target behaviors would be likely to increase motivation and thus increase success. However if this is not possible due to the severity of the behavior or the student's disability, a

functional analysis (O'Neill, Horner, Albin, Storey, & Sprague, 1989) may be useful to help determine target behaviors and to help assess settings and time periods when self-management could begin. Exactly how many behaviors you work on at a time depends on your student. Some individuals do better just beginning with one behavior, then adding additional behaviors following successful completion of the initial behavior. In cases like this, you will probably be wise to choose the behavior that is the most disruptive. Sometimes, several behaviors can be worked on at a time if the behaviors are grouped together and labeled in a way that the student understands. For example, your student may already have a good understanding of the various behaviors that encompass "paying attention", (e.g., sitting in the chair, facing forward with both feet on the floor, not talking when the teacher is talking, focusing attention on the teacher) and "not paying attention" (e.g., tipping the chair back, getting out of the chair, sitting sideways in the chair, talking). Behaviors such as these often easily lend themselves to treatment as a group under a more general heading such as "paying attention".

Write your student's target behavior here:

1/3._____

_____

_____

_____

_____

Remember, if the target behavior includes a group of behaviors (such as "paying attention"), also write the various behaviors that the label includes.

Measure Behaviors

By now, you have specifically defined your student's appropriate and inappropriate behaviors. Next, you need to decide how your student will be recording the target behavior. If your student will be counting the occurrences of a desirable behavior you can use a wrist counter (available at golf and discount stores) which can be pressed immediately after each occurrence of the target behavior. For example, Susie, a student with autism, does not initiate conversations with others. As part of her treatment program, she has been taught to initiate conversations by asking questions to others. Susie tallies her own questions by pressing the wrist counter immediately after she asks a question. The wrist counter tallies points which are later exchanged for rewards.

If your student will be recording the absence of a behavior, small boxes drawn on notecards or a small notebook may be used to make a mark (check mark or "x" immediately following a set time interval in which no inappropriate behavior has occurred). For example, Johnny frequently talks to his neighbor during class. His treatment program consists of having him self-manage periods of time without talking to his neighbor. Immediately after the set amount of time has elapsed he writes a check on a separate

piece of paper indicating that he did not engage in conversation with his friend. As with the example above, these checkmarks are exchanged for rewards.

How will your student record appropriate behavior (i.e., notecards, notebook, wrist counter)?

1/7._____

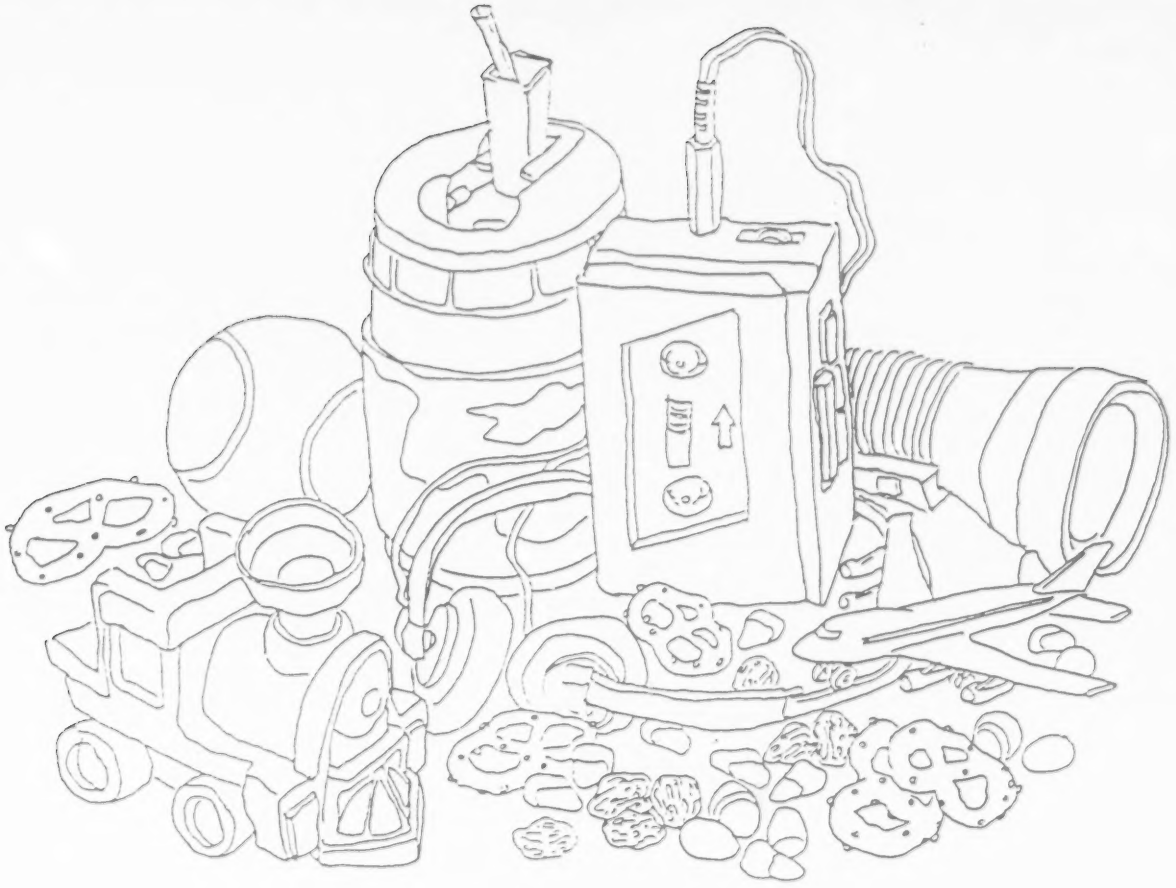
If your student will be self-managing behavior after a specified time interval, the time interval may be signaled using a digital watch with repeat chronograph alarm function (such as the Innovative Time model 0700BRN, available at discount stores). The repeat chronograph alarm function on this watch will automatically sound an alarm after the pre-set amount of time has elapsed. Because this watch does not have to be reset to ring again after the interval has elapsed, it greatly facilitates independent self-management.

Will your student need a wristwatch to signal the self-management time interval?

1/8._____

Choose a Reward

The rewards need to be chosen by your student in order to be sure they are functional (that is, to be sure they motivate your student to engage in the desired behavior). If your student does not have adequate skills to express verbally what is desireable as a reward, try to observe the student and assess what items are chosen and what activities are engaged in during free time. Also, varying the reinforcer frequently has been shown to be effective for improving motivation (Egel 1980). For the initial stages of training, rewards should be used that can be delivered immediately and enjoyed for a short time (e.g., small bits of food that your student likes, a hug). Throughout the training, all tangible rewards should be accompanied by social praise. For students who do not enjoy "traditional" rewards such as food or hugs, short periods of "free time" are an excellent reward. An infinite number of possible rewards exists. The important point to remember is that it must be rewarding to your student (even if you find it hard to imagine why). One easy way to brainstorm possible rewards is to ask yourself what your student does during "free time". Chances are, activities your student engages in during free time are those that would make great rewards.



List some possible rewards for the initial stages of training here:

1/9._____

As your student receives more practice and becomes more competent at self-managing the target behavior, larger or less tangible rewards may be used. We have had success using a point system where points are earned which may then be used to "buy" an array of rewards costing different point values (for example, a smelly sticker might cost 5 points, while a trip to the park, zoo, or Disneyland might cost 2000). Another possibility is to reward your student with money that may be used to buy a desired item.

List some large, or less tangible, rewards that your student might enjoy after the initial training steps.

1/10._____

_____

_____

_____

_____

Select an Initial Unit of Behavior/Time

After selecting the rewards, you will need to set goals for your student to meet in order to earn them. If your goal is to increase the frequency of an appropriate behavior that has a discrete beginning and end, the goal you set for your student might be a certain number of occurrences of that behavior (e.g., at least 5 chores completed per day). If your goal is to decrease the frequency of an inappropriate behavior, the goal you set for your student might be a certain time interval without an occurrence of the inappropriate behavior (e.g., 1 minute free of self-stimulatory behavior). Choose an initial goal based on the measurements of your student's behavior (see Appendix B for details on measuring behaviors). The initial goal should be easily attainable in order to insure success. For example, if you have noticed that your student's behavior often remains appropriate for 15 second intervals but rarely remains appropriate for 30 second intervals, a good initial goal for your student would be "15 seconds of appropriate behavior", which can be expanded to much longer intervals later in the program (During Steps 2 and 3).

Write your student's initial goal here:

1/11._____

_____

_____

_____

_____

Before proceeding with your treatment plans, check to make sure you've done the necessary planning by completing the checklist under "Getting Ready" on page 4-5.

STEP 2: TEACHING SELF-MANAGEMENT

Gather Materials

Before beginning self-management training you will need the following materials:

( ) 1. A variety of rewards for your student to choose from.

( ) 2. Either: 1) a wrist counter, 2) check cards with a pencil, or 3) a wristwatch with repeat chronograph alarm and check cards with a pencil.

Teach Identification of the Target Behavior

To teach your student to identify the target behavior that you chose in #1/3 and to discriminate it from inappropriate behavior, you (and the student) will need to model both inappropriate behavior and the target behavior. Model both sets of behavior in random order, asking your student "Is this (target behavior)?" following each behavior you (or the student) model. When your student correctly answers the question "Is this (target behavior)?" he or she should immediately receive a small reward (for example, a hug, praise, or a small bite of food, such as a raisin). When your student is incorrect, tell him/her so, then model the behavior again and prompt the correct answer after repeating the question "Is this (target behavior)?" Repeat this several times until you are sure your child has a good understanding of the target behavior. Feedback from our field test procedures identified this as a particularly important step that may need to be repeated prior to initiation of each session with students who have more severe disabilities.

An example of how to teach a student to identify his target behavior follows:

Tommy Jones' inappropriate behaviors have been defined as "persistent stereotypic arm flapping, rhythmic finger tapping, and prolonged and/or repetitive lip puckering". Mrs. Jones has labeled Tommy's target behavior "no stim" since this phrase has a long history of use with Tommy and he often stops engaging in these inappropriate behaviors for short periods of time when the phrase "no stim" is used (indicating that Tommy understands that "no stim" means no arm flapping, finger tapping, or lip puckering). Mrs. Jones sits across from Tommy at a table, gets his attention, and models Tommy's three forms of self-stimulatory behavior, saying after each one, "This is stim". She then models attentive behavior with no stim occurring and says "This is no stim". Next, she models finger tapping and asks "Is this stim"? If Tommy is correct, Mrs. Jones praises him and gives him a raisin. If Tommy is incorrect, Mrs. Jones says "No", models finger tapping again, and prompts Tommy to answer correctly. Mrs. Jones continues to model both Tommy's inappropriate and appropriate target behavior in random order until Tommy is correct on approximately 10 consecutive trials (this may need to be increased to be sure your student

fully understands the concept).

How will you or your student model your student's appropriate behaviors?

2/1._____

_____

_____

_____

_____

How will you or your student model your student's inappropriate behaviors?

2/2._____

_____

_____

_____

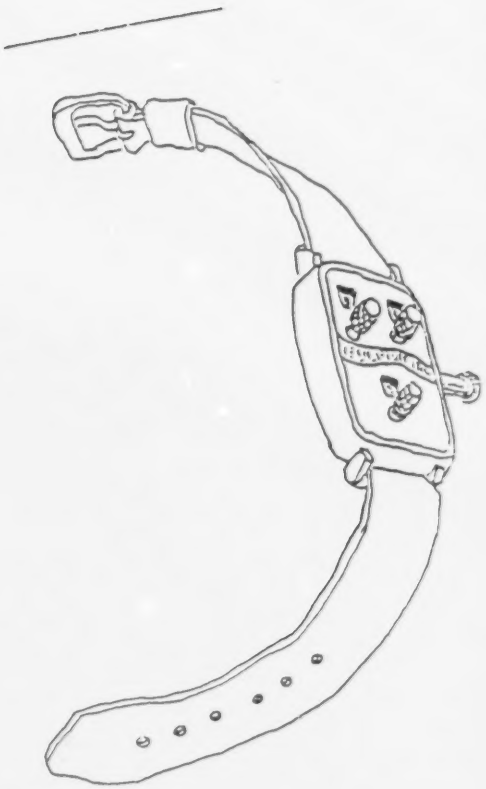
_____

Teach Recording of the Target Behavior

Once your student is able to correctly identify both appropriate and inappropriate behaviors, you are ready to begin teaching your student to record the target behavior when it occurs. There are several steps involved in doing this: 1. Show your student the rewards (from page 8, #1/9) and tell your student to pick a reward to work for (i.e, "which one would you like to earn?"). Place the chosen reward within eyesight, but out of reach of your student. If your student will be using a wrist counter to record the frequency of a desireable behavior, proceed to 2a. If your student will be using a wristwatch with repeat chronograph alarm to record the absence of an undesirable behavior, proceed to 2b.

2a. **Using a Wrist Counter.***

(*note: If you do not have a wrist counter for your student to use, you can use a piece of paper with a box or several boxes on it and have the student mark a check in the box following each occurrence of the target behavior. Step 1 will be omitted and check cards will be substituted for the wrist counter for steps 2 through 5 below.)



1. Place the counter on your student's wrist.

2. Tell your student that he/she can "press" the counter each time he/she performs the target behavior (i.e., "each time you answer a question you can click the button"). Demonstrate engaging in the target behavior and immediately clicking the counter.

3. Tell your student that when the counter shows the number of responses set by you for the initial goal in question number 1/9 he/she will receive the reward (i.e., "when this says 1, you can have the pretzel!").

4. Following each instance of the target behavior, prompt your student to record the behavior if this does not occur immediately. If your student records his/her behavior without being prompted, praise your student profusely for the act of self-recording (e.g., "That's great! You answered my question and you gave yourself a point. Good working!").

5. When your student's initial goal has been met say, "Look! How many points do you have? (Prompt your student to answer correctly if he/she initially does not). That's right! What do you get when you have __ points? (Prompt a correct answer if necessary). After your student enjoys his/her reward for a short time, reset the wrist counter and continue as before (shortening, maintaining, or lengthening your goal as appropriate to maintain a high level of success).

2b. **Using a Wristwatch with Alarm Mode.**

1. Show your student a piece of paper with a box drawn on it and tell him/her that he/she can make a "check mark" in a box if he/she engages in the target behavior and meets the initial goal you set in question number 1/11 (e.g., "if you have no stim for 30 seconds you can make a check here"). Make sure the alarm is set for the time interval you want.

2. Remind your student not to engage in the inappropriate behavior and then say "go" before starting the alarm on the wristwatch (e.g., "remember... no stim. Ready? Go!").

3. When the alarm sounds, signaling that the time interval for your student's initial goal has expired, say "it's time" and ask your student if he/she engaged in the target behavior within the time interval set. (e.g., "it's time! Did you have no stim the whole time?"). Prompt a correct answer if necessary (e.g., "Yes, you had no stim the whole time." Or, "no, you tapped your fingers like this"). If your student met the initial goal set by you, prompt him/her to make check mark in one the boxes on the self-recording card and then praise him/her for doing so (e.g., "Good! You had no stim and you made a check. Good for you!"). After your student enjoys his/her reward for a short time, present a new recording check card and continue as before.

If the initial goal was not obtained, begin a new trial. If your student does not succeed on the second trial, consider beginning with a shorter time period to increase the likelihood of success.

<u>Reward Self-Management</u>

Although your immediate goal is to increase the frequency of appropriate behaviors and decrease the frequency of inappropriate behaviors, your long-term goal is for your student to self-manage these behaviors for extended periods of time in your absence. For this reason, it is important to praise the act of accurately self-recording (i.e., pushing the counter, or making a check mark), at least as much as you praise the target behavior (e.g., "Good job! You answered my question and you pushed the counter -- good for you")! You also may wish to give verbal reinforcement for correctly monitoring inappropriate behaviors (e.g. the child says "I had 'stim'" and the therapist says "that's right, thanks for

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behaviors (e.g. the child says "I had 'stim'" and the therapist says "that's right, thanks for telling me, let's try again"). While some children will respond well to just verbal praise, others may prefer a small treat such as an edible or toy after a predetermined number of correct responses. Remember, rewards are important to keep the student's motivation high. Don't forget to offer rewards that your student will enjoy and that can be given immediately after the desired behavior occurs.

Congratulations! You are now ready to begin the most rewarding portion of this training program.

STEP 3: CREATING INDEPENDENCE

Having your student self-manage behaviors independently is the ultimate goal of this treatment program and there are several components that enable independence to be produced. The first three components should all be utilized concurrently throughout the training process.

1. Increase the Time Spent Self-Managing Behavior

Regardless of the type of monitoring device your child is using, you will want to gradually increase the duration of the self-management "lessons". For example, you might begin with very short (say 10-minute) training lessons each day, and then, as your student requires less prompting, gradually increase the duration of the self-management lessons until your student is self-managing behavior for the amount of time necessary to be a productive member of the community (this is apt to be all of his/her waking hours). In addition, if your student is using a wristwatch with alarm mode, you will also want to gradually increase the amount of time that passes before the alarm sounds and your student has the opportunity to record a checkmark. You might initially begin with a 30 second interval, progress to 45 second intervals, then 1 minute intervals, then 2 minute intervals, and so on. Usually intervals of 15 minutes to one hour are appropriate "independent goals" for most types of targeted behaviors.

2. Fade Your Student's Reliance on Prompts

As your student learns to self-manage behaviors, you will also want to make your prompts (e.g., verbal and nonverbal hints to self-manage) more and more subtle until they are faded completely. The amount of prompting necessary for various students will vary in regard to type and amount. An example of the steps involved in fading prompts for one student follows:

Step 1 (maximum prompt): "It's time! Did you stay in your seat? -- Then what do you do?" (pointing to the check sheet).

Step 2: "It's time! Did you stay in your seat?" (maintaining eye contact with the

student following his answer so that he realizes there's something else he needs to do).

Step 3: "It's time!" (maintaining eye contact with the student following his answer so that he realizes there's something else he needs to do).

Step 4: (widening eyes following time signal and maintaining eye contact with the student so that he realizes there's something that needs to be done).

Step 5: (gradually decrease the intensity and duration of eye contact following the time signal until the student initiates the self-recording sequence with no verbal or nonverbal prompts -- the clinician's behavior immediately after the time signal does not differ from the clinician's behavior immediately before the time signal.

Again, as with all steps of the program, make sure the student is successful at a step before moving to the next step. Until your student learns to self-manage behaviors in your presence without any help (not even nonverbal help, such as "eye hints") from you, it is unrealistic to expect self-management to occur in your absence. For this reason, it is important to fade your prompts as quickly as possible while maintaining a high level of success.

List what you will say and do for each step as you fade your prompts:

3/1._____

_____

_____

_____

_____

3. Increase the Number of Responses Necessary for a Reward

As your student learns to self-manage behaviors, you will want to gradually increase the goal to be reached in order to obtain the reward. For example, if your student is using a wrist counter you will want to gradually increase the number of "points" needed to earn a reward. You might begin with a goal of five points (e.g., "When you have five points for answering questions, you can choose a sticker"), progress to 10 points, then 20, and so on, always being careful that your student is maintaining a high level of success moving on to the next step. If your student is using a wristwatch with alarm mode, you will want to gradually increase the number of boxes on each recording card. Ultimately, you may end up with twenty or thirty boxes needing to be checked before a reward will be earned.

List the steps you might use to increase the number of responses necessary before your student obtains a reward:

3/2._____

_____

_____

_____

_____

As a further step towards independence, you may want to have your child(ren) administer their own reinforcers. For example, the child(ren) can fill a box with candy and then eventually administer the candy themselves.

Deciding when your student is ready to progress to a higher level of independence will be determined by his/her data (See Appendix B for different ways to take data). Interpreting data is explained in more detail in Step 5: Troubleshooting.

Before moving on to the next step in the training program (fading the presence of the treatment provider), take a moment to ensure your student is ready for this step. It is not an efficient use of teaching time to attempt to fade your presence before your student's behavior indicates readiness for this step.

Is your student :

( ) Eager to earn the next reward?

( ) Accurately self-recording behavior with no help from you?

( ) Rarely engaging in inappropriate behaviors and often engaging in appropriate (target) behaviors while self-managing behaviors?

( ) Required to earn a sufficient number of points or checkmarks so that rewards are occurring somewhat infrequently, or so that many points or checkmarks are "collected" and redeemed at a later time.

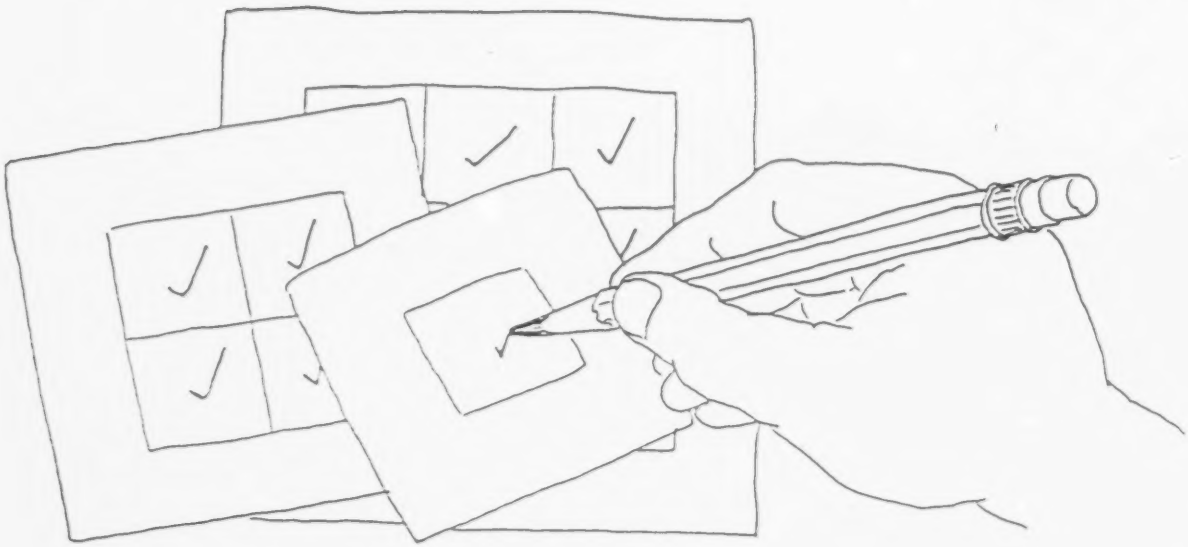
( ) Required to self-manage behavior for at least 10-minute intervals (if using a wristwatch with alarm mode) before having the opportunity to record a checkmark.

( ) Able to self-manage behavior in your presence for extended periods of time (e.g., at least one hour)?

Fade the Presence of the Treatment Provider

When your student's data indicate a level of appropriate behavior that is satisfactory to you, and self-management is occurring without any help from you, it is time to start planning how you will fade your presence (and maintain your student's self-management skills). By this time your student most likely is managing his/her own behavior a considerable amount of time and needs to "check" multiple boxes (e.g., four), or

your student to continue self-management procedures in your absence you will not want to increase the number of responses necessary for a reward or the amount of time your student self-manages behavior.



Fading your presence can be done a variety of ways depending on the specific needs of your student and the setting you are in. Regardless of the setting, one way to begin fading your presence is by stepping out of the room where your student is self-managing behaviors for a very brief period of time (15-30 seconds for example). When you leave, you may want to "think up an excuse" (e.g., "I need a cup of coffee - I'll be right back"), or simply leave with no explanation. What you say -- or don't say, when you leave depends solely on what you think would be the best approach for your child.

How will you begin fading your presence?

3/3._____

_____

_____

_____

_____

Now, the tricky part is figuring out what your student is doing while you are gone! If you are teaching your student to self-manage behaviors in a setting where there are other people around (such as a classroom) this is easily accomplished by simply asking someone whether your student exhibited appropriate behavior and self-management procedures in your absence. If you are teaching your student to self-manage behaviors in a setting where you are typically the only other person around (such as home), you will have to think up more clever ways of "checking up" on your child, such as unobtrusively peeking in a door or window. Some behaviors might also be "listened for" while you are out of sight.

Who will let you know what your child is doing when you are not there?

3/4._____

How will they "check on" your child?

3/5._____

When you return to the room where you left your student self-managing behaviors (and after checking to see if your student actually self-managed the targeted behavior in your absence), first ask your student whether he/she exhibited appropriate behavior in your absence (e.g., "Did you push or hit anyone while I was gone?"). If your student does not answer correctly, provide the correct response or prompt a correct response without mentioning how you came by your omnipotence (e.g., "That's right, you didn't hit or push anyone!", or "No. You hit your sister. Do you get a check for hitting?").

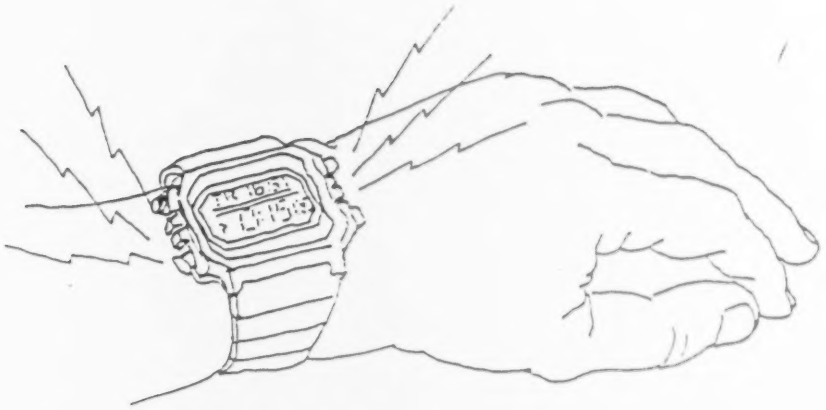
After asking your student if appropriate behavior occurred in your absence, determine whether self-management procedures were used by checking to see if a point was earned or a box checked. If your student self-managed targeted behavior accurately (remember, accurate self-managing occurs even when appropriate behavior does not occur and no checkmark or point is recorded), praise your student (e.g., "Good for you! You didn't hit or push and you made a check. Good job!", or "That's right. You hit your sister so you didn't get a check. Let's have no hitting so you can earn a check! Ready?"). If the targeted behavior was not recorded accurately, prompt a correct response. Since accurate recording of targeted behavior may be a prerequisite to fading your presence,

inaccurate recording should rarely, if ever, occur at this stage of the program (although accuracy may be less important in later steps - see the "trouble shooting" section below). If your student continues to inaccurately record the target behavior at this stage, you should back up a step or two and work on fading prompts to record the target behavior when you are in the room.

The key to fading your presence is to do it gradually with brief, and unpredictable, "appearances" in your student's self-management setting. If your student self-managed behaviors appropriately while you were absent, you should reward your student as described above and then, as soon as possible, leave again for a slightly longer period of time. This process can be repeated, gradually increasing the length of your absences until your student is self-managing for extended periods of time in your absence. In order to fade to once weekly visits, the fading process may take anywhere from one to four days. As time consuming as this may sound, you must remember that the actual time you spend with your student during these "fading" days is really quite short -- after the first few successful "absences", you will need to spend only as long as it takes to reward your student before leaving again.

Let's peek in on Mrs. Jones as she fades her presence with her son Tommy. Tommy Jones is now self-managing his self-stimulatory behaviors using a wristwatch with chronograph alarm set to sound every 15 minutes. While wearing his wristwatch he rarely engages in self-stimulatory behavior and is accurately self-managing his behavior without any help from Mrs. Jones. Mrs. Jones decides it is time to fade her presence from the living room of their home (where self-management training sessions occur). She waits until Tommy has earned two checks for "no stim" and needs to earn two more before obtaining his reward. One minute before Tommy's alarm is set to sound, she says, "I'm going to get a drink of water" and leaves the room. She watches Tommy from behind the door as he continues to exhibit appropriate behavior. When the alarm rings, Mrs. Jones watches as Tommy makes a check mark in one of the self-monitoring boxes. She waits a few seconds and then re-enters the room. "Did you have 'no stim' while I was gone?", she asks. Tommy nods yes and Mrs. Jones says, "Great! Did you get a check?" When Tommy indicates that he did, Mrs. Jones says, "Good for you Tommy! You had 'no stim' and you remembered to give yourself a check! Keep up the good work". She remains in the room a few minutes and then quietly leaves again. Since Tommy did so well the last time Mrs. Jones left the room for a little over one minute, Mrs. Jones decides that she will return to the room after 3 minutes have passed. She watches Tommy from behind the door. After 2 minutes with appropriate behavior Tommy begins to engage in self-stimulatory behavior. Mrs. Jones waits until the 3 minutes she had decided on has elapsed, and then re-enters the room. As soon as the alarm sounds, Mrs. Jones re-enters the room and asks Tommy "Did you have 'no stim' while I was gone?" Tommy nods his head and shows her a checkmark. "No", says Mrs. Jones matter-of-factly, "You did this and this [demonstrating]. Is this 'stim'?" Tommy nods yes. Mrs. Jones repeats her original question, "Did you have 'no stim' while I was gone?" Tommy shakes his head, indicating that he hadn't. "Right. Do you get to make checks for 'stim'?" Tommy shakes his head

for 'stim'. Let's try again. Remember to have 'no stim' so you can make a check. Ready"?



Because Tommy began engaging in self-stimulatory behavior after 2 minutes had passed, Mrs. Jones concluded that leaving for 3 minutes was too large an increase for Tommy. Because she wanted Tommy to maintain a high level of motivation, she wanted to insure that he would be successful on his next try self-monitoring in her absence. Therefore, the next time Mrs. Jones left the room she decided to leave for 1 minute again and then, assuming Tommy was successful, increase the time interval more gradually than she had before.

What time intervals will you use to gradually and systematically fade your presence (remember to gradually increase time intervals in a stepwise manner and make your appearances unpredictable)?

3/6._____

_____

_____

_____

_____

Once your student is capable of self-managing appropriate behavior for extended periods of time (i.e., hours) in your absence, you may want to modify your method of delivering rewards somewhat so that they fit into your routine schedule. For example, rather than your student receiving a reward immediately after completing each recording "card", you might want to schedule a certain time when the recording cards completed for the day (or week) are exchanged.

STEP 4: TEACHING SELF-MANAGEMENT IN ADDITIONAL SETTINGS

It is generally quite easy to teach your student to self-manage behaviors in other settings once it is occurring in your absence. First, you will need to instruct your student that he/she can earn extra points by engaging in the appropriate behavior(s) in the second setting (e.g., "Now you get to wear the watch at the babysitter's too! You can earn extra points for music tapes at the babysitter's"). The day you want your student to begin self-management procedures in a second setting you will need to go to that setting with your student and make sure he/she is wearing the watch (or counter) and that provisions are made for someone else to put the self-management device on your student on subsequent days (if necessary). After instructing your student to begin self-management procedures in the second setting (e.g., "Show me you're ready to earn points/checks for 'paying attention'"), observe for a short time in the second setting and then leave for a brief (e.g., 5-minute) time. Upon your return, check with the person responsible for your student in this second setting regarding your student's behavior while you were not present. You will then want to consequate your student accordingly (as described in Step 3: Creating Independence).

It may be necessary to gradually fade your presence in this second setting just as you did in the original training setting. It has been our experience that after the successful implementation of a self-management program in a second setting, implementation of self-management procedures in additional settings requires only that the self-management stimuli (i.e., wristwatch and self-management check cards, or wrist counter) be presented to your child.

List additional settings you may want to incorporate in your student's self-management program:

4/1._____

_____

_____

_____

_____

STEP 5: TROUBLESHOOTING

Before proceeding to troubleshoot more subtle aspects of the program, first check the rewards you are using to insure they are powerful and effective for your student. Occasionally, several difficulties may arise that are easily corrected by modifying one aspect of the program (i.e., rewards which are not "rewarding" will result in numerous difficulties - simply switching rewards may drastically improve learning). Listed below are some other solutions to common difficulties you may encounter when teaching self-management for the first time.

1. **Inaccurate Recording of Targeted Behavior.**

If your student is not accurately recording the targeted behavior, you will first need to go back to Step 2 above (Teach Identification of the Target Behavior) and make sure he or she clearly understands both sets of behavior (inappropriate and appropriate). If this does not seem to be a problem, you may have to set up a different point system. For example, if your student is recording points without actually engaging in the appropriate behavior you may need to begin taking away points for inaccurate recording. If your student is engaging in the appropriate behavior but forgetting to mark, you need to double check the strength of your rewards. If your student is highly motivated to earn the rewards but is still forgetting to record appropriate behavior, you will need to strengthen your student's ability to associate the reward with appropriate behavior. Do this by decreasing the number of points or the time interval necessary for a reward and by increasing your prompts to record appropriate behavior immediately after it occurs.

If you have checked and rechecked all the above steps and your student is still not accurately identifying the target behavior do not abandon the self-management program. We have had lots of success using self-management with students who are not accurate at identifying when inappropriate behavior occurs. It seems that being accurate at self-management greatly facilitates training, but that self-management is also effective when students are not accurate (cf, Hundert & Buchner, 1978; Nelson, Lipinski, & Boykin, 1978).

2. **Refusal or Reluctance to Wear the Self-Management Device.**

Occasionally a student will decide he or she does not want to wear the wrist counter. This may occur for two reasons, either your student associates the self-management device with "work", or your student feels the watch is stigmatizing. If it appears that the reason your student refuses to wear the self-management device is because it is associated with work, there are several things you can do. First, examine the language you have been using when you put the self-management device on your student. Rather than telling your student "you 'have to' wear your watch now", or asking "would you like to wear your watch now?" it is always more motivating and truthful to say something along the lines of "you get to wear your watch now and earn _____. Which hand would you like to wear your watch on?" in a matter of fact way. Again, double check to make sure your reward is sufficiently powerful so that your student actually wants to earn it. It may also help to have a designated time that the watch is placed on your student so it becomes as routine as any other activity. Another way of getting the watch on, if all else fails, is to have the person in the previous environment put it on just before your student enters the environment where self-management is to occur. For example, a teacher may want to place the watch on your student prior to going home from school if your student is refusing to put on the watch at home.

If your student does not want to wear the watch because he/she feels it is

stigmatizing, then you might wish to either: a) let your student carry the watch in his/her pocket; or b) take steps to insure that the watch is not stigmatizing. For example, you can ask other esteemed individuals (possibly a teacher or a valued peer) to wear a watch in a very visible setting. With some imagination you should easily be able to turn the watch into a status symbol.

3. **Child does not know how to count.**

If you are worried that your child does not know how to count, and therefore will not know when they have received the right number (e.g., 50 points) of points necessary for a reward, then you can merely tell the child that they will receive a reward when "all the boxes on the page are filled with checks," since it is easier to understand the concept of full vs. empty, or not full. The main point is that the child should be aware that they are working toward a goal.

4. **No Change in Behavior When Self-Managing.**

If you do not see immediate improvement in your student's behavior following implementation of the self-management program, first double check to see if your rewards are powerful. That is, did your student pick them, and does your student really want them. Similarly, is the behavior functional for your student? Does it improve the quality of your student's life in a way that is noticeable? Also make sure that you are not requiring too many occurrences of the target behavior or too long a time period prior to earning the reward. You also may want to have your student manage fewer behaviors if a large number of behaviors are being managed as a group. By examining each component individually, you should be able to figure out which one is causing a problem in your program.

CASE HISTORIES

The following case histories represent some easy and challenging self-management programs we have implemented. As you read through the examples, please try to think of how you will teach your student to use self-management skills, create independence, and then teach self-management in additional settings.

Student 1; Teaching appropriate hygiene skills through the use of self-management (also discussed in Koegel & Koegel, 1986).

Johnny, a child with autism, was a fifth grade student in a special education class in the public schools. His hygiene was so poor that his educators reported that they were having difficulty working with him if the teaching situation required that they be in close proximity to him. Because his parents left for work before he left for school in the morning, they were unable to supervise his grooming, therefore we decided that a program such as self-management would be ideal because he could serve as his own treatment

provider. The following behaviors were defined as in need of remediation on a daily basis:

1. Dirty face (actual dirt on the face)
2. Dirty glasses (spots and film on glasses)
3. Dirty shirt (student wears the same unwashed shirt daily)
4. Dirty pants (student wears the same unwashed pants daily)
5. Dirty socks (student wears the same unwashed socks daily)
6. Bad breath and dirty teeth (student does not properly clean teeth)
7. Body odors (student does not properly take a shower or wear deodorant)

It was also necessary to determine the appropriate behaviors which should substitute the inappropriate behaviors. In order to keep the initial behavioral unit small, we decided to work on one behavior at a time until the entire list of problems had been remedied. The first target behavior, clean face, was selected because it could be easily observed and trained in the school setting. Denny selected his own reinforcer which was earning points to go to the beach with the clinician after school.

Next, we were ready to train a single instance of the target behavior, self management of a clean face in the treatment room at school. We began by teaching him to discriminate between a clean and a dirty face at school. The clinician spent several hours at school having Denny look in the mirror and tell her if his face was clean or dirty and then having him wash his face then look in the mirror again and tell her if it was clean or dirty. Following each correct (clean) response the clinician had Denny self-monitor the behavior by putting a check or plus in a small notebook which he carried with him. The check indicated that he had a clean face and correctly monitored his behavior and therefore he received a point. If his face was not clean and he recorded a check in his book or if his face was clean but he did not record a check, he received no points and was told why he did not receive a point. If his face was not clean and he did not record a point he was verbally reinforced for accurate monitoring but received no point.

Once Denny had reached a high level of success at school he was ready to begin self-management at home. First, because the self-management had not occurred in the home setting (although he was demonstrating a high level of success at school) the clinician accompanied the client to his home after school and prompted the child to perform the discrimination and monitoring process there. He was instructed to engage in the target behavior every morning after waking (i.e., wash face, look in mirror, evaluate and record if his face was clean). The points were continued as in the school setting. That is, if Denny had a clean face and recorded a plus, he earned a point toward his beach trip. In order to verify the validity of his self-management, Denny was checked for a clean face and accurate monitoring each morning when he arrived at school on the bus. If his face was clean (and recorded as being clean), she verbally reinforced him (eg, "good job washing your face, and you made a checkmark!) and rewarded him with a point.

After Denny reached a high level of success on the first behavior (i.e., four consecutive correct days) a second target behavior was added. Then, earning a point was contingent upon correct performance of both behaviors and so on until all of the target behaviors were successfully learned. Self-management of the second and subsequent target behaviors only required training in the school environment, without prompting in other

settings. That is, generalization of the appropriate hygiene behavior began to occur in all of the target settings without further intervention. Further, natural social reinforcers eventually became so related to the target behavior that he began doing additional behaviors such as putting on a tie, and seeking approval.

Student 2: Eliminating self-injurious and aggressive behavior

Nancy was an eight year old severely retarded girl with high rates of aggressive and self-injurious behavior. She was referred to our clinic when an intensive treatment program utilizing time-out procedures for inappropriate behavior appeared to be failing. Nancy's parents commented that utilizing time out procedures with Nancy was extremely difficult for them to do in public places and that at home a special "indestructible" room had been specially built for time-out. At first glance Nancy's aggressive and self-injurious behavior appeared to be unpredictable. However, a functional analysis of these behaviors indicated that self-injurious and aggressive behavior occurred when Nancy was not being directly attended to by an adult and when she was presented with difficult tasks. Thus, it appeared that Nancy's inappropriate behavior served two functions: 1) it was a way of evoking attention, and 2) it often allowed her to escape unpleasant/difficult tasks. While teaching her various appropriate methods of evoking attention and escaping unpleasant situations, we also wanted to use a proactive (i.e., preventative) treatment technique so that Nancy would learn to get attention for appropriate behavior rather than for inappropriate behavior. In addition, Nancy's parents had a history of inconsistent use of treatment procedures due to difficulty implementing the procedures in various settings, and because of the duration and intensity of her disruptive behaviors. Therefore, we thought self-management would be an ideal treatment procedure for Nancy.

Because Nancy's rate of self-injurious and aggressive behavior was so high and because our observations during assessment indicated that she knew the meaning of "behaving", it was not necessary or desirable to model appropriate and inappropriate behaviors before beginning training. We first established a functional reinforcer (food) and told her that if she "behaved" she could have the food. The clinician then engaged Nancy in a task that she enjoyed. After approximately 5 seconds had passed without inappropriate behavior, the clinician commented "I love how you're behaving! Let me help you make a checkmark here (on an index card) for the food." Self-management intervals were gradually increased from 5 seconds to 10 minutes while fading prompts to self-monitor and also transferring control to Nancy by asking her to decide if she had behaved (rather than the clinician telling her, as in the first trial). As Nancy became more independent at self-managing her behavior, adult attention was further faded, and she began to complete difficult tasks. This program enabled her to learn that she could get attention by engaging in appropriate behavior, rather than engaging in inappropriate behavior.

Another behavior reported as being problematic by Nancy's parents before we began implementing self-management was that she hated to have her hair brushed, and that attempting to brush her hair almost always escalated into a tantrum. Consequently, Nancy's parents did not attempt to brush her hair very often and Nancy's hair was

generally quite matted. After observing self-management with Nancy in clinic, her parent's decided to try it at home with the target behavior being "hair-brushing". Nancy's parents were quite successful at implementing the self-management techniques -- Nancy not only allowed her hair to be brushed, but also allowed it to be cut. Her hair became much easier to manage, and hair brushing was no longer an aversive task. Instead, the hair brushing itself was neutral, and the attention she received was able to be used as a reward.

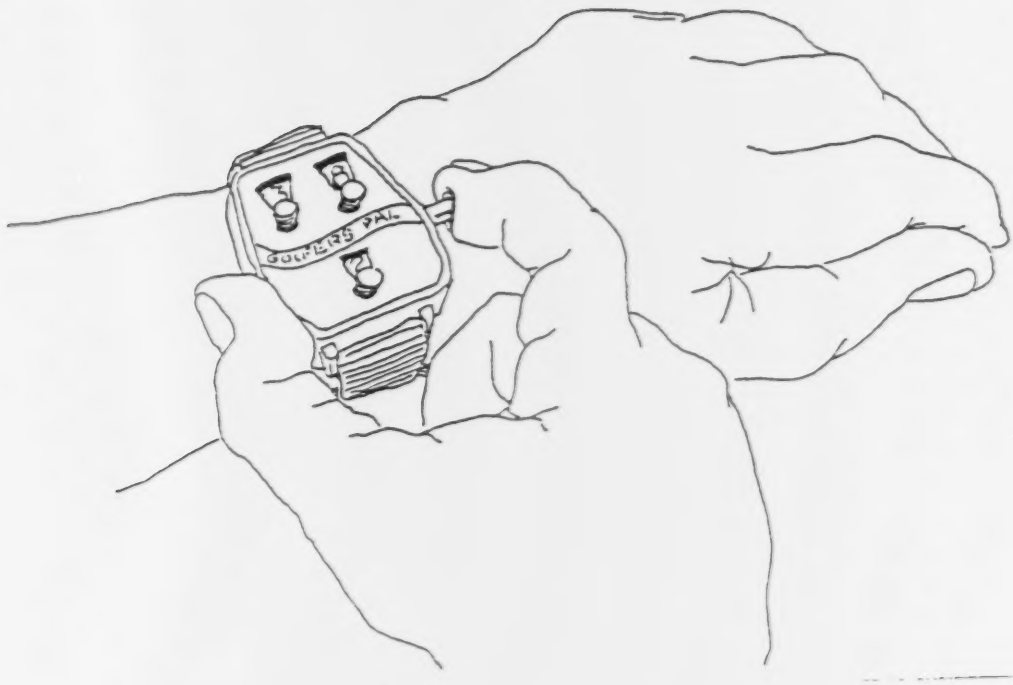
Student 3: Teaching prosody

Johnny, a fourth grade student diagnosed as having mild autism attended a special education class in the public school system. His language skills were excellent, however he lacked appropriate pragmatic skills. One marked feature of his language was his lack of prosody. He typically spoke in a monotone. Because it would not be possible to teach Johnny every combination of words in every setting, the pivotal skill of self-management was chosen so that he could use it to apply appropriate intonation to an unlimited number of new utterances and settings.

Our first step was to collect several audiotaped language samples and rate them as either appropriate (uses appropriate intonation) or inappropriate (does not use appropriate intonation) prosody. Several raters independently scored his intonation as inappropriate during 100% of his utterances. A reward was selected (earning small gold stars) and an initial goal of behavior to work on was selected. The initial goal was to have Johnny use appropriate intonation during yes/no and "wh" questions to a criteria of at least 90%.

Second, Johnny was taught to self-manage the target behavior. In order to accomplish this, approximately 40 3x5 index cards containing various questions printed on each, were presented. The clinician first modeled the appropriate and inappropriate use of intonation during both types of questions (i.e., rising during yes/no questions, and rising then falling during "wh" questions) an Johnny was taught to identify correct vs incorrect. Then Johnny was taught to identify correct and incorrect during his own productions. Once he was able to do this, he was taught to push a wrist counter following each question with correct intonation, while he read the card. Johnny earned rewards (gold stars) for correct productions and correct monitoring.

Once Johnny was able to read through the cards and remember to press the wrist counter following each correct response several times, the clinician required him to look at her prior to asking the question. Next he had to ask her the question and then wait for a response. Finally, he had to make up his own questions, ask the clinician with appropriate intonation and press the wrist counter then wait for a response. When he was able to do this at least 90% of the time, the clinician began to teach independent self-management.



In order to teach independent self-management, Johnny had to earn first two, then five, then ten points before receiving a star. In addition, he was no longer given any prompts regarding either the response or the self-management. The final step of the program was to transfer the behavior outside of the treatment setting. In order to do this, Johnny was instructed that he could earn points outside of speech class by asking teachers, other students, the school secretary, etc. questions with correct intonation, pressing the wrist counter, then bringing in the points during his regular speech session to exchange for rewards.

After Johnny was self-managing his behavior outside of the clinic, validation checks were made by asking his teacher, the secretary, and others to whom he was asking questions how his intonation sounded and if he was remembering to press his wrist counter. In addition, audiotaped language samples were taken in his natural environment during conversations with people not associated with the treatment. All of the measures, both objective and subjective indicated that he was using appropriate intonation and remembering to self-monitor during at least 90% of his questions.

SUMMARY

To date, we have implemented several hundred self-management programs in community settings such as schools, homes, and after school programs with people with disabilities ranging from mild speech impairments to severe intellectual impairments, self-injury, and aggression. The people who have participated in the self-management programs have shown rapid, dramatic, and long term behavior improvements. Additionally, "significant others" have reported that while the initial program steps take some one-on-one investment of staff time, the overall program takes significantly less staff time than previous treatment efforts (which often spanned many years). While the field of self-management is still in its infancy, especially as it pertains to those with severe behavior disorders, it seems to be an extremely effective technique for dealing with severe behavior disorders, particularly when the individual is expected to behave appropriately in settings that do not provide constant external feedback. Thus, the treatment techniques explained within this manual provide disabled people with a skill that is critical for normalization; self-management.

Appendix A

A partial list of other behaviors we have targeted for self-management includes

1. Hygiene (behaviors targeted one at a time included washing face, cleaning glasses, wearing clean clothes, combing hair, washing hands, and taking a shower)
2. Quiet bus riding (without fighting with or yelling at other students or hitting the bus driver)
3. Articulation (one phoneme targeted at a time)
4. Work completion (in class during work periods)
5. Staying in seat during class
6. Completing homework
7. Checking math problems
8. Thumbsucking
9. Independent working in class
10. Stereotypic behavior
11. Self-injurious behavior
12. Aggression
13. Tattling
14. Talking aloud in class
15. Participation in class activities
16. Responding to questions
17. Nail biting
18. Verbal initiations
19. Intonation

Appendix B

Counting Each Occurrence of a Behavior. Many behaviors can be measured by making a tally mark each time the behavior occurs during a given time period (each minute, hour, day, etc). You might, for example, make a tally mark each time your student leaves his seat without permission in school. You can then total the tally marks at the end of each time period that you are measuring behavior to determine changes in this behavior. This method of measuring behavior is best for behaviors that are relatively brief.

Measuring Whether a Behavior Occurs in a Given Time Period. Another way to measure behavior is to record simply whether or not the behavior occurred in a certain time period (each minute, hour, day, etc.). For example, if you wanted to know how many minutes out of each hour that a behavior occurred you could record a "+" at the end of each minute that the behavior did occur and a "-" at the end of each minute that the behavior did not occur. By dividing the total number of pluses by the sum of pluses and minuses (in this example, 60), you could obtain a percentage indicating the frequency with which the behavior occurred.

Graphing Measurements of Behavior to Visualize Student Performance. After you have calculated the number or percentage of occurrences of the target behavior that occurred in a given time period, creating a graph makes it very easy to see trends in your students behavior and adjust your treatment program accordingly. To create a simple graph like the example below, label the vertical line with the units of behavior that you are measuring -- either number of occurrences (0 - the maximum expected number), or percentage of occurrences (0-100%). Label the horizontal line with the amount of time represented by each measurement (e.g., if you calculated the number of times a behavior occurred within an entire day, the horizontal line would be labeled "days". If you calculated the number of times a behavior occurred within each hour for two hours per day the horizontal line would say something like "one-hour blocks".

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